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ABSTRACT

A review of eight major empirical studies relating to the effects of commercial television advertising of proprietary drugs on drug use, misuse, and abuse found in general that no such relationship exists. Among the findings of the studies are the following: (1) no relationship exists between media exposure and marijuana use, (2) drug abusers view television more than a control group of nonabusers and another control group consisting of people with various pathological conditions, (3) use of proprietary drugs was associated with use of "hard" drugs, (4) television viewing and drug use were not related, (5) children exposed to television drug advertising were not strongly disposed to use such drugs, (6) a significant positive relationship exists between weekday television viewing and use of cigarettes and marijuana, and (7) the formation of an attitude of readiness to take drugs was weakly related to the use of both proprietary and illegal drugs. The findings of the studies indicate that health educators need to pay more attention to the public's use of proprietary drugs. (FL)

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Empirical Studies Related to the Effects of Commercial
Television Advertising of Over-The-Counter Drugs On
Drug Use, Misuse, and Abuse: 1963-1981

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INTRODUCTION

The postwar years have brought worry and frustration over the worldwide problem of drug abuse, particularly among youth. According to Cope¹ "this frightening phenomenon has rightfully consumed the energies of civic leaders, legislators, social scientists and others. Those persons and groups are actively looking for the causes. One of the issues related to drug abuse is the controversy surrounding drug advertising on television as a possible contributor to the problem of drug use, misuse, and abuse among youth."²

Payne has identified two different mechanisms which have been hypothesized:

The first assumes that the advertising of over-the-counter drugs directly tempts youth to try them. The advertisements lead them to believe that the advertised drugs will enable them to escape from their problems. When the over-the-counter drugs do not lead to the expected results, the youths seek more effective drugs. They are, accordingly, likely to engage in further experimentation with drugs and, sooner or later, with illicit drugs.

The second mechanism assumes that the advertising of the over-the-counter drugs does not "directly" tempt youths to experiment with the advertised drugs. What it does--by showing that drugs solve personal problems, make miserable mothers happy, soothe anxieties, and

This article is based on an extensive literature review prepared as a basis for a Ph.D. dissertation completed May 1981 under the direction of David F. Duncan, Dr.P.H. at Southern Illinois University, Carbondale.

the like--is to encourage the view that solutions to problems are to be found in drugs.³

Berger⁴ believes that the broadcast industry, drug companies, and advertising agencies are the institutions responsible for the controversy linking drug advertising on television with drug abuse among young people. The fact that four out of the top five advertisers are drug companies,⁵ and that on the average between one and two of every ten minutes of air time is devoted to advertising seems to add weight to Berger's contention.

Steiner⁶ notes that in the great debate over television, as well as for the viewers, the "commercials" represent a two-fold consideration. He adds:

First, there is the matter of the commercial messages themselves, including what they say, how they say it, and especially, how often. And secondly, there is concern with the nature of the commercial sponsorship system, what it does and fails to do for American television.

Drug commercials, specifically, are a part of this issue. Berger⁷ suggests that drug commercials, in particular affect us by supplying models, which to a degree give us a sense of how the world works and how to maneuver within it. "The basic model is what I call the "Pain-Pill-Pleasure" syndrome where people with a minor physical ailment take a pill and obtain relief. He adds:

It is not much of a leap from the notion that small problems can be "fixed" by taking illegal drugs and various kinds of narcotics. We are exposed to the "Pain-Pill-Pleasure" model so often that it is probably ingrained in our psyches.⁴

Current concerns with exercise and diet are clear indicators of some Americans' increased preoccupation with achieving higher levels of health and wellness, and with improving the overall quality of their lives through assuming

personal responsibility. Lafferty⁷ has noted that the responsibility for health depends upon each individual's willingness to develop intelligent health and wellness behaviors. He also notes that in order for individuals to assume greater responsibility for the quality of their lives, they must be skilled in making decisions. They must recognize that for each decision there are alternatives, consequences, and risks involved. Environmental and societal constraints are, of course, factors which impact on such decisions. Smith, Trivax, Zuelke, Lowinger and Nghiem⁸ feel that television is a tool to promote individual responsibility for one's health and wellness through appropriate health decisions. They state:

Health plans that require informed publics and professional involvement are often inadequate or fail because of a lack of understanding or interest. Attitudes toward health that originate in the earliest years of life may be greatly influenced by a medium of communication that affects human beings before they walk, talk, read or write. Television continues to have a role in attitude formation that may be more important than any other educational media including school, parents, radio, or books.

The formation of health attitudes most often occurs in situations other than formal learning settings. Stein⁹ has noted that "our educational culture has largely neglected the fact that questions relating to learning and teaching may be highly significant before and after schooling." Such a realization has led Barnum² to conclude that the mass media represent an enormous and untapped potential for public health education. Price and Allensworth¹⁰ agree that mass media can be utilized by the health educator to maximize program effectiveness. Leary¹¹ suggests that health educators should take a more critical look at television. He argues that "it is important for us to understand the insidious

role television plays in the lives of the people [who are learning] wellness concepts".

EMPIRICAL STUDIES

The critics of drug advertising suggest that a causal relationship may exist between broadcast advertising of nonprescription drugs and abuse of drugs. "Proponents of this theory reason that o-t-c advertising encourages pill-taking, in general, to meet problem situations which leads to a casual attitude toward all drugs, including illegal drugs.¹² Presently, only eight studies deal with television viewing of over-the-counter drug advertising and its relationship to drug taking.

KANTER (1976)

One study done by Kanter,¹³ and widely cited in the literature, addressed itself to the issue as identified by Cope.¹² The participants involved in the study consisted of students from grades five, seven, and eleven of the Coronado Unified School District, Coronado, California. The full study consisted of three parts; an awareness recall study (375 students), a survey (600 students), and copy research of selected advertisements (600 students). According to Kanter¹³ the following results relevant to this subject area were indicated:

1. There is no indication that pharmaceutical advertisements were easier to recall than other heavily advertised product categories.
2. Advertising has low salience (is not talked about frequently) among the students when compared to other environmental influences.
3. The family was generally seen by the students to have the greatest relative influence on their attitudes toward legal and illegal drugs. Other strong influences were school (peer group), police and courts, and medical subjects.

4. Students felt that advertising was a relatively strong influence upon their feelings toward medicines, but not on their feelings toward marihuana or illegal drugs.

5. Grade 5 students ranked television programs as a relatively strong influence upon their general feelings and knowledge of marihuana and illegal drugs. This was not true for the older students.

6. Students, especially those in grade 7, felt that advertisements for stimulants and depressants could lead to misuse of the product.

Kanter¹³ concluded that as a result of the trends developed in his study, it would be fair to assume a more sophisticated research design might produce data "more specific about the role advertising plays--along with other environmental influences--in the development and reinforcement of attitude patterns that predispose students to adopt illegal drugs as a way of life."

OSTMAN, TRAGER, ATWOOD AND JARVIS (1976)

Ostman, Trager, Atwood and Jarvis¹⁴ tested the presumed causal link between television viewing of OTC drug commercials and drug abuse. Additional hypotheses were also included in their studies. The authors investigated public use of OTC drugs and opinion regarding regulation of OTC drug advertising. This study was initiated as a result of the petition submitted by Massachusetts Attorney General Francis X. Bellotti and many other state attorneys general to the Federal Trade Commission (FTC) asking that all drug advertising be banned from television airwaves from 6:00 a.m. to 9:00 p.m. They note,

Concerns with these ads primarily were due to presumed dysfunctional effects upon children and others: 1) whether or not O-T-C ads lead to misuse of O-T-C products by children; and 2) whether or not O-

T-C ads lead to misuse and abuse of illicit drugs by children, adolescents and adults.¹⁴

Using the December 1975 telephone directory for Carbondale, Illinois, the authors chose random starting points and equal interval techniques to generate a sample of 386 persons. The final completion rate of the telephone survey was 200 interviewees or 51.8% of telephone numbers sampled. In these analyses, 13 different predictor variables under the general headings of: demographics; over-the-counter drug use; frequency in and recency of use of OTC products in six categories; influence upon OTC use or non-use; television use (during four time periods); and perceptions and opinions regarding the effects of television ads on the things people buy and the intensity of such effects, were used to predict to the criterion variables. Ostman et al., noted that eleven predictor variables accounted for 19.9 percent of the total variance in OTC drug use. Jarvis et al.,¹⁵ state that,

The best predictor was advice from friends. Media variables played a minor role. The 13 variables generally did not predict the respondent's attitude toward the regulation of television drug commercial announcements. Several demographic and social categories (sic) variables, including age, sex, total household income and education, also were not particularly important in predicting O-T-C drug use or attitude toward television commercial regulation. Contrary to expectation, there was no correlation between exposure to television drug ads and use of O-T-C drugs. A similar nonsignificant finding was observed between advice received from the mass media and use of O-T-C drugs.

This study by Ostman et al., along with a review of other literature surrounding the issue of drug advertising and its connection with drug abuse led the Federal Communications Commission to conclude that,

The FCC will not institute a rule making proceeding to ban advertising of over-the-counter drugs on TV between 6 a.m. and 9 p.m. In the absence of a compelling showing to the contrary, the agency must conclude that public interest will be served by a free flow of information regarding proprietary drugs. . . .¹⁶

JARVIS, OSTMAN, TRAGER, AND ATWOOD (1977)

Using these same data, Jarvis et al.,¹⁵ specified variables which would discriminate between two groups of persons, i.e., those who believe their health to be in their own hands (internal locus of control) and those who believe their health to be regulated and influenced by a general human system of health care (external locus of control). They further note that:

Of primary concern was the possible role played by the mass media of communication in affecting the person's O-T-C drug use, and beliefs concerning the locus of control relevant to personal health, as compared to several other groups in interpersonal communication variables.

The authors tested two stepwise multiple discriminant models relating to interpersonal and mass media communication variables. Statistically significant levels were found for both discriminant models. Jarvis et al.,¹⁵ found that "interpersonal communication variables discriminated between groups, with professionals, relatives, friends and family members as being most influential, in that order." They also found, in the second model, that interpersonal communication variables were most important in discriminating between the groups. The investigators add,

However, in this model, the perceived effects of television commercials on consumer purchasing behavior also aided in discriminating between the internals and externals. Friends, professionals, family members and others were the dominant interpersonal sources of advice sought by respondents.¹⁵

Thus, the authors note that it seems "fair" to say that problems associated with misuse of OTC or illicit drugs should not be attributed to media influences alone. The authors add:

Taken together, the two studies which have examined these data suggest that the presumed link which ties television viewing of O-T-C drug commercials and O-T-C drug use in a causal, stimulus-response, hypodermic needle relationship is too sweeping and simplistic an explanation.¹⁵

MILAVSKY, PEKOWSKY, AND STIPP (1976)

A frequently cited piece of research^{3,12,14-16,21,23,24,26,27} concerning the issue of TV exposure to OTC drug advertising and illicit drug use has been done by Milavsky et al.¹⁷ The authors conducted a longitudinal panel study over a three and a half year period beginning in May 1970 and ending in December 1973. Data were collected by questionnaire from 822 teenage boys and their mothers and fathers in two midwestern cities. The respondents, representing both low- and middle-income black and white families were interviewed five times and their mothers and fathers, twice. The five-wave panel survey examined the relationships between exposure to drug advertising, use of OTC drugs, use of illicit drugs, and an "attitude of readiness" to take proprietary drugs. Milavsky et al.,¹⁷ reported,

In searching for direct effects of television. . .drug advertising exposure shows a weak positive relationship to teenage boys' use

of proprietary drugs. Additionally, [drug advertising exposure] shows a negative relationship to [teenage boys'] use of illicit drugs--both marijuana and other drugs.

Then, in searching for indirect links between television exposure and illicit drug use, . . . although TV might lead to use of proprietary drugs, use of such drugs was not related to use of illicit drugs.

The last part of the analysis was addressed to another possible indirect link between exposure and use of illicit drugs--through the formation of an attitude of readiness [measure] to take drugs. This attitude measure was weakly related to use of both proprietary and illicit drugs, but there was no evidence that an attitude of readiness stems from exposure to drug advertising on television.

As a result of these findings Milavsky et al., stated:

The conclusion at this stage in our analysis is that the data do not support the contention that drug advertising leads teenage boys to take illicit drugs either directly or indirectly. On the contrary, the data indicated that it is the lighter viewer of drug advertising on TV who is more likely to use illicit drugs. This finding suggests that light use of television may be as legitimate a subject of concern and study as heavy television use historically has been.¹⁷

The authors noted that their findings of an attitude of readiness to take proprietary drugs may be a factor in taking both proprietary and illicit drugs and may be an indication that a "pill popping" culture does in fact exist. "That television does not seem to play a role in the formation of this attitude

raises the question of what is responsible for it, as well as why readiness is associated with illicit drug use."¹⁷ Although the findings of Milavsky et al., negate the vigor with which critics of OTC drug advertising argue, the authors study does indicate that exposure to drug advertising is related to use of proprietary drugs.

ABELSON, COHEN, AND SCHRAYER (1972)

Abelson, Cohen, and Schraye¹⁸ in a four part study, prepared for the National Commission on Marihuana and Drug Abuse²⁵ asked three questions of respondents that related to mass media usage and attitudes concerning marijuana. There were a total of 2,405 adults and 781 youth ages 12-17 who participated in this nationwide probability sample. The adults were sampled through interviews and questionnaires. The young people were sampled through questionnaires only.

According to Abelson et al.,¹⁸ there were two reasons for questioning exposure to mass media and beliefs about marijuana.

. . . . the purpose of this analysis is largely to provide a crude idea of what kinds of attitudes the media have available to them to work with. That is, heavy media consumers are more likely to be reachable as readers and viewers than are people who attend less to newspapers, magazines, and television news.

A secondary purpose is to determine if in fact there is a unique pattern of beliefs about marijuana associated with heavy media consumers, as compared with others. Such a unique pattern of beliefs might then lead to speculation about the kinds of people who are disproportionately exposed to the media.

Based upon the stated purposes of Abelson's et al., study no relationship was found between media exposure and marijuana use. The authors found little in

the way of attitudinal differences regarding marijuana and media usage between adults and young people.

BRODLIE (1972)

There are data which would appear to support Cope's summary of the general attitudes of the critics of drug advertising on television. Brodlie¹⁹ attempted to investigate the relationship between patterns of television viewing in childhood and drug abuse in adolescents. Recognizing the large variety of drug abuse patterns and etiologies in young people, Brodlie attempted, in the initial phase of his study, to ascertain preadolescent influences which affected student involvement with hashish or marijuana. Daily drug consumption after school or on a constant weekend basis was the primary drug pattern with which Brodlie was concerned. The sample consisted of 50 adolescents between the ages of 15 and 19 who were seen in private practice and a hospital psychiatric clinic. "All subjects were involved, or had been involved, in a drug abuse pattern fitting the above description."¹⁹ The initial evaluation revealed that "the most outstanding commonly found characteristics of these adolescents was a life style which could be characterized as driven toward receiving stimulation or pleasure while expending a minimum of effort."¹⁹ Brodlie then adds that,

In terms of contemporary child rearing practices and influences on child development, it would appear that the only analogous phenomenon which may become an integral part of the child's daily behavior and where stimulation and passivity can be achieved simultaneously is television viewing.¹⁹

According to Brodlie there were two control groups in the study. The first group was comprised of 50 adolescents taken from a high school population. They expressed no involvement or experience with drugs. Brodlie notes that the

second control group was comprised of 27 adolescents, in 6 diagnostic groups, who were evaluated and/or treated for psychopathology other than drug abuse.

All subjects were individually interviewed using retrospective techniques. They were questioned about drug abuse and viewing patterns while either in elementary or junior high school. Standardized questions were asked.

The primary result of Brodlie's study was that the drug abuser viewed television more than a control group not involved with drug abuse, and a control group of mixed pathology. But Brodlie is quick to point out that this finding cannot be interpreted as proving or even implying a cause and effect relationship. He adds,

Many intermediary factors could explain the relationship between television viewing and drug abuse. Those factors could, for example, be the degree of structure of limit setting within a family unit, or poor social confidence which tended to isolate the youngster from peers. Either of these phenomena plus a variety of other psychological or physical factors could explain the apparent relationship.

On the other hand, perhaps excessive television viewing plays some role in the development of a life style which seeks pleasure and passivity simultaneously. All children are at times faced with having to cope with an absence of planned or structured activities, etc. He may, however, because of lack of mobility, inadequate community resources for youth, etc., spend a good deal of his free time at home. If he is allowed to watch television "on demand", his boredom or anxiety level will not reach proportions necessary to motivate him into activities. The television viewing would then serve as a force modifying the anxiety of the child and his need

to cope with boredom by active involvement in activities. In that respect, both television viewing and the type of drug abuse patterns investigated here could be viewed as anxiety defenses which are reinforced by the decreased anxiety of 'turning on'.¹⁹

Brodlie's study is not widely quoted in the literature. One reference to the study by Milavsky et al.,¹⁷ suggests that "there is reason to keep the interpretation of Brodlie's study open, however, because of some limitations of the Brodlie study;" [namely, the fact that the subjects were of mixed psychopathology].

HULBERT (1974)

Another study by Hulbert,²⁰ widely quoted in the literature,^{1,3,10,12-13,15-17,26} focused on the alleged relationship of television viewing and television advertising to illicit drug use. His sample consisted of 990 college students (predominantly undergraduates) drawn from campuses in the New York Metropolitan area. The data were collected by a cross-sectional survey. A variety of demographic and personality measures were examined in order to assess differences among segments of the population and to estimate the relative importance of television exposure compared with other possible influences on drug use. "Usage questions included a variety of commercial remedies, but also went on to cover alcohol, cigarettes, marijuana, barbituates, amphetamines, LSD, cocaine and heroin."²⁰ In analyzing the data Hulbert states,

Cross-tabulation and chi-square tests were used on the whole sample to test the alleged relationship between television viewing, television advertising and drug abuse. The sample was then split into an analysis sample and a test sample. Regression analysis was used on the analysis sample to investigate tentative relationships

drawn from accusations and relevant behavioral theory. Observed relationships were then tested on the validation sample.²⁰

The results of Hulbert's study indicates that drug use ranged from a high of 87% for alcohol to a low of 9.2% for heroin among the sample respondents. Most drugs were first tried in small groups or with a boy-friend or girl-friend. First trial of alcohol was frequently in association with parents or occurred at parties. Initial trial of cigarettes and amphetamines often occurred alone.

Two advertising measures were used to test the hypothesis of an association between television viewing and television advertising and drug use. They were "drug recall" and "brand recall".

Usage of illicit drugs was tested against both these variables, but only in the case of marijuana did a significant relationship emerge. Usage of marijuana was significantly associated with "brand recall" . . .and this positive relationship was supported on the "drug recall" measure.²⁰

According to Hulbert two other questions dealing with weekday and weekend television viewing habits yielded different results.

No significant relationships between drug usage and weekday viewing were found. However, in the case of weekend viewing, there were a number of significant negative relationships. These suggested that the more weekend television the student reported watching, the less likely he was to use marijuana, barbituates, LSD, and cocaine. There was no such relationship for heroin or amphetamines.²⁰

Hulbert cites the following summary as it relates to usage of proprietary drugs:

The estimates indicate that usage of proprietaries is significantly lower among men, and among Black and Oriental students. A family history relatively free of health problems is a negative influence on consumption of proprietaries, but the more parents were inclined to drink, the greater the reported usage. The most important independent variable was the "symptom index", based on aggregate reported incidence of ailments for which proprietary remedies are available. None of the television [viewing] or television advertising variables was significant in either test.²⁰

Hulbert also created another variable: an aggregate index for usage of "hard drugs". He notes that,

The most important independent variable is friend's usage of "hard drugs", followed by the respondent's reported usage of proprietary drugs. . . . White students appear to use "hard" drugs more, as do more innovative students. On the other hand living with parents and more frequent church attendance are associated with lower usage. A number of symptoms appear to be associated with "hard" drug usage: nutritional problems in particular may probably be viewed as a consequent.²⁰

Hulbert concludes that the overall results of his study would tend to suggest that television viewing and television advertising generally are factors not linked to usage of illicit drugs. He states that "usage of proprietary drugs as associated with usage of 'hard' drugs does raise some troubling questions about the overall drug problem."²⁰

The conflicting findings of Milavsky et al.,¹⁷ and Hulbert²⁰ on one major point bear repeating. Milavsky et al. in searching for direct effects of television, found that although drug advertising exposure showed a weak positive

relationship to teenage boy's use of proprietary drugs, "there was a negative relationship to their use of illicit drugs--both marijuana and other drugs."²⁰ Hulbert's study, on the other hand, indicates a significantly positive relationship observed between advertising recall and marijuana usage. This one area of conflict between these two important studies, widely cited as conclusive justified replication of Hulbert's study. The conflicting findings on this one very important issue also indicate that a need exists for further study of the relationship between drug advertising and illicit drug use because of inconclusive findings.

ROSSITER & ROBERTSON (1980)

In 1980, Public Opinion Quarterly published a study on television drug advertising and its effects on attitudes toward proprietary drugs among children 8 to 13 years old.²¹ They found that children are not strongly disposed to use such drugs, and that their disposition to do so was only modestly influenced by exposure to drug advertisings. The authors also found that there was no indication of cumulative influence as the children grew older.

The last finding is of particular interest in relationship to Martin's study which replicated Hulbert's study on college students. If the replication found a link between televised drug ads and drug usage, the possibility of a cumulative influence which did not appear until later than age 13 would be evident.

MARTIN (1981)

Martin undertook a systematic replication of Hulbert's study by investigating the relationship of television viewing and television advertising of proprietary drugs to drug taking in a college population. The study was only the second done with a college population.

Data were collected from 223 graduate and undergraduate students representing 9 of 11 academic units at Southern Illinois University at Carbondale. This was 1.05% of the 21,144 students enrolled on campus during Fall Semester, 1980.

A total of 22 graduate and undergraduate students participated in a test and retest of Hulbert's instrument. Test and retest frequencies were compared using two-way crosstables. Chi-square goodness of fit tests were calculated from the cross-tabulation tables. Results of the tests (significance level=.05) indicated that 39.7% of the variables yielded significantly different results at retest from test, indicating that the items in the Hulbert instrument were unreliable. The remainder of the test items, 60.3%, appeared to be reliable measures of association. The unreliability of approximately one-third of the items may account, in part, for inconsistencies between Hulbert's results and Martin's results.

Frequencies of drug taking were tabulated with television viewing and demographic variables. Stepwise multiple regression was run using demographic variables as predictors of both "hard" drug use and proprietary drug taking.

This investigation did not support Hulbert's findings of a significant negative relationship between illicit drug usage (marijuana), and weekend television viewing. Likewise, no support was found for Hulbert's positive findings of a relationship between usage of proprietary drugs and sex, race, parent's consumption of alcohol, and the "symptom index". Additional findings also do not support Hulbert's findings of a relationship between usage of "hard" drugs and race, innovativeness, present residency with parents, more frequent church attendance, and usage of "hard" drugs and nutritional problems. This investigation supported Hulbert's findings of significant positive relationships between proprietary drug usage and "drug recall," proprietary drug usage and "brand recall", and usage of proprietary drugs and illicit drugs.

Unlike Hulbert's study, this investigation found the following relationships to be significant: 1) a significant positive relationship between weekday television viewing and marijuana use; 2) a significant negative relationship between weekday television viewing and usage of cigarettes; 3) a significant negative relationship between "drug recall" and usage of alcohol; 4) a significant negative relationship between usage of "hard" drugs and the level of education of one's mother; 5) a significant negative relationship between usage of "hard" drugs and amphetamines and cocaine (while some relationship between these two hard drugs is expected, the fact that they predicted total "hard" drug usage while other drugs in the "hard" drug variable did not, seems to be a finding of some significance); and 6) a significant negative relationship between "hard" drugs and the psychological variable "I am more independent than most people."

This investigation indicated also that additional positive relationships were significant: proprietary drug taking and the number of children in one's present household; proprietary drug taking and attitude toward television viewing; proprietary drug taking and weekday viewing of television; use of proprietary drugs and the psychological variable "I like to try new and different things"; use of proprietary drugs and the psychological variable "Many times I have little influence over the things that happen to me"; use of proprietary drugs and the variable "Other" drugs; and use of proprietary drugs respondent's report of friend's or acquaintances' attempts at persuading respondent's use of cocaine.

Summary

Considerable disagreement was found in the empirical literature on the question of OTC drug advertisements and drug abuse. The following table summarizes the major findings of the studies examined.

SUMMARY OF FINDINGS

Statement of Finding	Author	Date
1. No relationship between media exposure and marijuana use. Little found in the way of attitudinal differences regarding marijuana and media usage.	Abelson, Cohen & Schroyer	1972
2. Drug abusers viewed television more than a control group not involved with drug abuse, and a control group of various pathological conditions.	Brodlie	1972
3. Usage of proprietary drugs was found to be associated with usage of 'hard' drugs; Significant negative relationships were found to exist between weekend TV viewing and 'hard' drug usage; significant positive relationship was found to exist between advertising recall and marijuana usage; but the author found that the overall results of the study tend to suggest no relationship between television viewing, television advertising and illicit drug use.	Hulbert	1974
4. No relationship was found to exist between TV viewing and drug use. Peer-group relations and family background appear to be more important factors in usage of drugs.	Kanter	1976
5. Drug advertising exposure showed a weak positive relationship to teenage boy's use of proprietary drugs, but drug advertising exposure showed a negative relationship to teenage boy's use of illicit drugs. The formation of an attitude of readiness	Milavsky, Pekowsky & Stipp	1976

SUMMARY OF FINDINGS

Statement of Finding	Author	Date
to take drugs was weakly related to use of both proprietary and illicit drugs.		
6. No correlation was found between exposure to television drug ads and use of OTC drugs. No relationship was found between media exposure and drug abuse.	Ostman, Trager, Atwood, & Jarvis	1976
7. Findings suggested that the presumed link which ties TV viewing of OTC drug ads and OTC drug use in a causal, stimulus-response, hypodermic needle relationship is "sweeping and simplistic as an explanation".	Jarvis, Ostman, Trager, & Atwood	1977
8. A study of televised drug advertising and its effects on attitudes toward proprietary drugs among children 8 to 13 years found that children are not strongly disposed to use such drugs. The children's disposition to use proprietary drugs was only modestly influenced by exposure to drug ads. The authors found that there was no cumulative influence as the children grew older.	Rossiter & Robertson	1980
9. Unlike Hulbert's study, this investigation found a significant positive relationship between weekday television viewing and usage of cigarettes and marijuana; "drug recall" and usage of alcohol; proprietary drug taking and weekday viewing of television; proprietary drug taking and attitude toward television;	Martin	1981

Television-OTC Drugs

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SUMMARY OF FINDINGS

Statement of Finding	Author	Date
but no relationship was found to exist among television viewing, television advertising, and illicit drug use.		

Recommendations for Health Education

The results of these investigations do indicate that some concern should be extended to the health consumer's use of proprietary drugs. The following recommendations are suggested:

1. Health educators need to be encouraged to increase the role which they and other social and behavioral scientists play in shaping drug advertising policy-making decisions at appropriate institutions.

2. Health educators should, through their professional association, work with drug advertising companies, broadcast associations, and pharmaceutical companies to insure drug advertising is factual, informative and conducive to the health consumer's promotion of wellness strategies.

3. Health educators should, through their professional association, interact with regulatory agencies in keeping the drug advertisers, pharmaceutical companies, and broadcast associations informed of drug commercials which may impact negatively (through inaccurate facts in their drug advertisements) upon the health and well-being of the general public.

4. Health educators should integrate the television drug advertising experience into their overall educational, instructional and behavioral objectives, through the use of videotaped commercials from television as a tool for student health consumers to view and critique in response to what makes up inaccurate or misleading health information. These exercises would increase their knowledge bases and influence their choice(s) of proprietary drug use conducive/not conducive to their healthy body functioning.

5. Health educators should attempt to effect an impact on the consumer of OTC drug products by assisting him/her in recognizing and analyzing his buying motives which are exacerbated by televised drug commercials often "pushing" the unnecessary purchase and consumption of over-the-counter drugs.

6. Health educators should use accurate facts from the related health literature in conjunction with videotaped OTC drug commercials to destroy myths associated with existing health consumer knowledge bases of OTC drugs, their value, purchase, and their behavior both before and after OTC drug use.

7. Health educators should encourage and support, through public and private groups, better mass media campaigns to acquaint the health consumer of the impact of OTC drug commercials on overall over-the-counter drug use and illicit drug use, misuse, and abuse.

8. Health educators should acquaint health consumers with how peer group influence plays a role in OTC drug consumption, illicit drug use, and overall health behavior.

9. Health educators should foster the consumer's understanding of how the perceptions of one's friends' health behavior and their actual drug taking behaviors interact.

10. Health educators should encourage student participation in television production of scripts related to OTC drug use, through class projects, to aid them in recognizing the different techniques used by the advertisers to overwhelm them to purchase their drug products.

One author sums up the health educator's viewpoint as follows: "Television is so pervasive in our society that we must critically evaluate what it teaches people about lifestyles that affect health and then develop an action plan to do something about it."¹¹

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